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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/870,881	05/30/2001	Douglas C. Watson	NIKOP002/PA0 327	8984

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EXAMINER	
JOHNSTON, PHILLIP A	

ART UNIT	PAPER NUMBER
2881	

DATE MAILED: 03/13/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/870,881	WATSON ET AL.	
	Examiner	Art Unit	
	Phillip A Johnston	2881	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-27 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-27 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 30 May 2001 is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4 .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

Detailed Action

Double Patenting

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 1-27 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-36 of copending Application No. 09796641. Although the conflicting claims are not identical, they are not patentably distinct from each other because it is obvious to one of ordinary skill in the art that all the limitations in Claims 1-27 of Application No. 09870881 are contained in Claims 1-36 of Application No. 09796641. By way of example, a comparison of Claims 25-27 of Application No. 09870881, with Claim 11 of Application No. 09796641 is included below.

Claims 25-27, of Application No. 09870881 , read as follows:

Claim 25. An electron beam projection lithography system comprising: an illumination column; a projection column, the projection column being separated from

the illumination column by a distance; and a stage structure, including a guide beam and a translational structure and a reticle holder through which an electron beam may pass from the illumination column to the projection column, the reticle holder being arranged to be manipulated within the distance, the translational structure surrounding the guide beam such that the weight of the translational structure is supported by the guide beam, wherein the guide beam permits the translational structure to freely move substantially in only one degree of freedom along the guide beam, the translational structure further including an airbearing structure arranged to cause the translational structure to buoyantly float relative to the guide beam.

Claim 26. An electron beam projection lithography system according to claim 25, wherein the reticle holder is cantilevered from the translational structure the stage structure further including: a magnet track; and a coil, the coil being coupled to the translational structure, wherein the coil is arranged to move linearly within the magnet track such that the coil is substantially always within the magnet track and movement of the coil causes the airbearing structure to move linearly over the guide beam.

Claim 27. An electron beam projection lithography system according to claim 25 wherein the guide beam is a first guide structure, the electron beam projection lithography system further including: a second guide structure, the second guide structure being coupled to the first guide structure such that the first guide structure is translationally moveable with respect to the second guide structure; and a third guide structure, the third guide structure being coupled to the first guide structure such that

the third guide structure is arranged to support translational movement and yawing movement of the first guide structure.

Claim 11 of Application No. 09796641, reads as follows;

An electron beam lithography system for imaging a pattern onto an article, the system comprising: an electron beam source for generating an electron beam; an optical projection system to project a pattern defined by a mask onto a surface of the article; and a stage positioning system for supporting and positioning the article; the system comprising: a stationary frame configured to support an article to be processed; a slide movable relative to the stationary frame in a first direction; a support platform connected to the slide and movable therewith in the first direction, the support platform being movably attached to the slide for movement in a second direction; a first linear motor comprising a first magnet assembly and a first coil device engaged with the first magnet assembly to move the slide in the first direction; and a second linear motor comprising a second magnet assembly and a second coil device attached to the support platform and engaged with the second magnet assembly to move the support platform in the second direction, wherein elements of the stage positioning system having magnetic permeability remain essentially stationary during processing of the article.

It is obvious to one of ordinary skill in the art that all the limitations in Claims 1-27 of Application No. 09870881, are for the most part, contained in Claims 1-36 of Application No. 09796641.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

3. Claims 1-27 are also provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-36 of copending Application No. 09731934.

Although the conflicting claims are not identical, they are not patentably distinct from each other because it is obvious to one of ordinary skill in the art that all the limitations in Claims 1-27 of Application No. 09870881, are contained in Claims 1-36 of Application No. 09731934. By way of example, a comparison of Claims 25-27 of Application No. 09870881, with Claim 11 of Application No. 09731934 is included below.

Claim 1 of Application No. 09870881, is shown above. Claim 11 of Application No. 09731934 reads as follows:

Claim 11. An electron beam lithography system for imaging a pattern onto an article, the system comprising: an electron beam source for generating an electron beam; an optical projection system to project a pattern defined by a mask onto a surface of the article; and a stage positioning system for supporting and positioning the article; the system comprising: a stationary frame configured to support an article to be processed; a slide movable relative to the stationary frame in a first direction; a support platform connected to the slide and movable therewith in the first direction, the support platform being movably attached to the slide for movement in a second

direction; a first linear motor comprising a first magnet assembly and a first coil device engaged with the first magnet assembly to move the slide in the first direction; and a second linear motor comprising a second magnet assembly and a second coil device attached to the support platform and engaged with the second magnet assembly to move the support platform in the second direction, wherein elements of the stage positioning system having magnetic permeability remain essentially stationary during processing of the article.

It is obvious to one of ordinary skill in the art that all the limitations in Claims 1-27 of Application No. 09870881 are for the most part, contained in Claims 1-36 of Application No. 09731934.

4. Claims 1-27 are also provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-36 of copending Application No. 09731934.

Although the conflicting claims are not identical, they are not patentably distinct from each other because it is obvious to one of ordinary skill in the art that all the limitations in Claims 1-27 of Application No. 09870881, are contained in Claims 1-36 of Application No. 09731934. By way of example, a comparison of Claims 25-27 of Application No. 09870881, with Claim 11 of Application No. 09731934 is included below.

Claim 1 of Application No. 09870881, is shown above. Claim 1 of Application No. 09866838 reads as follows:

A positioning stage system, comprising: a support platform; an X-direction

linear motor and a Y-direction linear motor; an X-member coupled to the X-direction linear motor and to the support platform to move the support platform in an X-direction along a Y-member, wherein the Y-member is coupled to the Y-direction linear motor and to the support platform to move the support platform in a Y-direction along the X-member; and a slide attached to the support platform and slidably engaged with the X-member and the Y-member, wherein the slide, X-member, and Y-member are configured to substantially support the weight of the support platform.

It is obvious to one of ordinary skill in the art that all the limitations in Claims 1-27 of Application No. 09870881 are for the most part, contained in Claims 1-36 of Application No. 09866838.

5. Claims 1-27 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-67 of U.S. Patent No. 6,281,655. Although the conflicting claims are not identical, they are not patentably distinct from each other because it is obvious to one of ordinary skill in the art that all the limitations in Claims 1-27 of Application No. 09870881 are contained in Claims 1-67 of U.S. Patent No. 6,281,655. By way of example, a comparison of Claim 19 of Application No. 09870881, with Claim 1 of U.S. Patent No. 6,281,655 is included below.

Claim 19 of Application No.09870881 reads as follows:

19. A scanning apparatus according to claim 18 further including: a third guide beam, the third guide beam including at least four sides, the third guide beam being substantially parallel to the second guide beam; and a third airbearing structure, the

third guide beam being at least partially disposed within the third airbearing structure, wherein the third airbearing structure is coupled to the first guide beam such that the translational structure may exhibit a yawing motion.

Claim 59 of 6,281,655 (Poon) reads as follows;

59. A stage assembly that moves an object along a Y axis, the stage assembly comprising: a fine stage adapted to move along the Y axis, the fine stage including (i) a fine frame having a first fine frame side and an opposed second fine frame side, (ii) a holder adapted to retain the object, and (iii) a first portion of a mechanism; a stage base that is adapted to guide the fine stage along a Z axis; and a coarse stage adapted to move with at least three degrees of freedom, the coarse stage including a second portion of the mechanism that interacts with the first portion of the mechanism to urge the fine stage upwards.

It is obvious to one of ordinary skill in the art that all the limitations in Claims 1-27 of Application No. 09870881 are for the most part, contained in Claims 1-67 of U.S. Patent No. 6,281,655.

Claims Rejection – 35 U.S.C. 102(e)

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an

application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1-27 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,281,655 to Poon.

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

8. Claims 1-27, are rejected under 35 U.S.C. 103(a), as being unpatentable over U.S. Patent No. 6,281,655 to Poon.

Poon (655) discloses a stage assembly (10) for moving and positioning one or more objects (24) for an exposure apparatus (28) is provided herein. The stage assembly (10) includes a fine stage (14) and a coarse stage (18). The fine stage (14) includes a holder (15) that retains the object (24). The stage assembly (10) also includes a fine Y mover (32) and a fine X mover (34) that precisely move the fine stage (14) relative to the coarse stage (18). Uniquely, the fine movers (32), (34) are positioned on only one side of the holder (15). With this design, the resulting stage assembly (10) has a relatively low mass and a relatively high servo bandwidth.

Further, with this design, the stage assembly (10) is readily accessible for service and a measurement system (16) can be easily positioned near the fine stage (14). The stage assembly (10) can also include an anti-gravity mechanism (40) that minimizes distortion of a stage base (12) that supports the fine stage (14) as the fine stage (14) moves above the stage base (12). Additionally, the stage assembly (10) can include a reaction assembly (20) that reduces the amount of reaction forces transferred from the coarse stage (18). See Abstract.

Poon (655) also discloses a stage assembly 10 having features of the present invention includes a stage base 12, a fine stage 14 including a holder 15, a measurement system 16, a coarse stage 18, a reaction assembly 20 and a mounting frame 22. The stage assembly 10 is useful for precisely positioning one or more objects 24 during a manufacturing and/or inspection process. The type of object 24 positioned and moved by the stage assembly 10 can be varied. In the embodiments provided herein, each object 24 is a reticle 26 and the stage assembly 10 is useful as part of an exposure apparatus 28 (illustrated in FIG. 13) for precisely positioning each reticle 26 during the manufacture of a semiconductor wafer 30 (illustrated in FIG. 13).

Poon (655) further discloses that the coarse frame bottom 130 supports the second portion 96 of the fine X mover 34 and the first portion 124 of the coarse Y mover 36. More specifically, a pair of attachment plates 138 cantilever downward from coarse frame bottom 130 intermediate the coarse frame sides 134, 136. One of the attachment plates 138 is positioned on the front of the coarse stage 18 while the other attachment plate 138 is positioned on the rear of the coarse stage

18. See Column 9, line 38-45.

Conclusion

8. Any inquiry concerning this communication or earlier communications should be directed to Phillip Johnston whose telephone number is (703) 305-7022. The examiner can normally be reached on Monday-Friday from 7:30 am to 4:00 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiners supervisor John Lee can be reached at (703) 308-4116. The fax phone numbers are (703) 872-9318 for regular response activity, and (703) 872-9319 for after-final responses. In addition the customer service fax number is (703) 872- 9317.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308 0956.

PJ
March 7, 2003

JOHN R. LEE
SUPERVISORY PATENT EXAMINER
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